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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,752	11/08/2001	Yee Loy Lam	774-010704-US(PAR)	2535

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PERMAN & GREEN  
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FAIRFIELD, CT 06824

EXAMINER
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PETKOVSEK, DANIEL J

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/006,752

Applicant(s)

LAM ET AL.

Examiner

Daniel J Petkovsek

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on June 20, 2003 (amendment B).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

### DETAILED ACTION

This office action is in response to the amendment filed on June 20, 2003. In accordance with the amendment, claims 2-4, and 6-10 have been amended; and claims 1 and 12 have been canceled.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2, 3, and 6-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al. US 2003/0044118 A1.

Zhou et al. US 2003/0044118 A1 teaches (Fig. 6, [0025]-[0031]) an optical system for coupling light between an optical device 620 and an optical fiber 630, comprising an integral spot size converter 610 (with upper waveguide with reducing taper and non-tapering lower waveguide) comprised of two waveguides dimensioned to couple light from one waveguide to another, in order to couple light from the device 620 to the fiber 630. It is inherent that in a device of this size, that an aligning feature is required and is essential to ensure proper coupling/precision between the initially separate device and the fiber (also see [0030], [0031]). Regarding claim 2, the system is silicon based. Regarding claims 6-10, alignment features are inherent or described in listed paragraphs of Zhou et al. '118.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. US 2003/0044118 A1, and further in view of Lee U.S.P. No. 6,411,764.

Zhou et al. US 2003/0044118 A1 teaches (Fig. 6, [0025]-[0031]) an optical system for coupling light between an optical device 620 and an optical fiber 630, comprising an integral spot size converter 610 (with upper waveguide with reducing taper and non-tapering lower waveguide) comprised of two waveguides dimensioned to couple light from one waveguide to another, in order to couple light from the device 620 to the fiber 630. Zhou et al. '118 does not explicitly teach that the integral spot size converter has a vertically spaced distance between the two waveguides.

Lee et al. '764 teaches (ABS, claims) a double core spot size converter for coupling light between an optical device and optical fiber that includes a spot size converter including a spacer region separating the two waveguiding regions.

Since Zhou et al. '118 and Lee et al. '764 are both from the same field of endeavor, the purpose of having a spacer region (or cladding) in the integral spot size converter of Lee et al. '764 would have been recognized in the pertinent art of Zhou et al. '118.

Art Unit: 2874

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a number of well known spot size converters (such as the converter containing a spacer/cladding region between the waveguides of Lee et al. '764) for the same purpose disclosed by Zhou et al. '118, coupling light between an optical device and an optical fiber.

Regarding claim 11, Zhou et al. '118 does not explicitly teach that the optical device is a semi-conductor edge emitting waveguide device. Since semi-conductor edge emitting waveguides are well known optical elements in the art, it would have been obvious to combine any emitting waveguiding device to the alignment apparatus of Zhou et al. '118 for efficient coupling of an optical device to an optical fiber.

### *Conclusion*

5. The amendment filed on June 20, 2003 has been fully considered. Previously indicated allowable subject material to claims 3 and 4 has been withdrawn, with regards to a new refreshed search in which newly published relevant prior art has been found.

Claims 2-11 stand rejected under 35 U.S.C. 102 (e) and 35 U.S.C. 103 (a) to Zhou et al. '118 and Lee U.S.P. '764

This action is made **NON-FINAL**, since previously indicated allowable material has been withdrawn. New art has been applied in the rejections of amended claims 2-11.


Art Unit: 2874


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, with respect to the state of the art of spot size converters to improve coupling between optical devices and optical fibers: US 2002/0039469 to Jeong et al. (see ABS, claim 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (703) 305-6919. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9321.

  
Daniel Petkovsek  
August 20, 2003

  
Brian Healy  
Primary Examiner